

ACUPUNCTURE FOR THE TREATMENT OF URINARY INCONTINENCE CAUSED BY NEUROGENIC OVERACTIVE BLADDER

Aims of Study

Acupuncture is a traditional Chinese medicine, which has no or few side effects, and has been widely used for the treatment of urinary disturbances (1, 2). Although, the mechanism by which acupuncture inhibits detrusor hyperreflexia remains to be elucidated, several investigators reported that bladder contraction could be suppressed by acupuncture (2, 3). However, clinical data has been limited in terms of urodynamics and symptoms in the human bladder. We investigated the clinical usefulness of acupuncture for the treatment of urinary incontinence caused by overactive bladder in patients with neurological diseases and evaluated the possible responsible focus of a disease using an MRI imaging study.

Methods

Thirty-three patients (24 males, 9 females) suffering from urinary incontinence due to neurological diseases were treated by acupuncture. Nineteen patients had cerebral neurogenic regions, including cerebral infarction and Parkinson's diseases, and fourteen patients had spinal cord injury. Nineteen patients with cerebral disorder had undergone brain MRI imaging. Acupuncture was performed using disposable stainless steel needles (0.3 mm in diameter, 60 mm in length, SEIRIN Kasei, Shimizu, Japan) with the patient in the prone position. Informed consent was obtained from all participants. Acupuncture needles were inserted into the bilateral BL-33 (Zhongliao) points as standardized by the World Health Organization, on the skin of the third posterior sacral foramina. A needle was inserted into each side of the foramina sufficiently deeply for its tip to be placed close to the sacral periosteum, and then the bilateral needles were rotated reciprocally with manual change of rotary direction for 10 min. The treatment was repeated once a week for 4 weeks for the initial treatment (1st to 4th acupuncture). When the initial treatment was effective, maintenance treatment was performed once every month after the initial treatment. Urodynamic studies were performed with the patient in the supine position before treatment and one week after the 4th acupuncture. Cystometry was performed with a catheter (14F) inserted through the urethra, using sterile saline water at a filling rate of 50 ml/min. Bladder capacity was defined as the volume until uninhibited contraction (15 cmH₂O or more in intravesical pressure) was recognized. All patients recorded a bladder diary for 1 week before treatment as a baseline, and again after the 4th acupuncture. The therapeutic effect of the acupuncture was evaluated based on changes in volume of urinary incontinence recorded in the bladder diary. Possible responsible focus of a disease in terms of response to acupuncture was evaluated by review of the brain MRI imaging study.

Results

Out of the 33 patients who underwent initial treatment, incontinence disappeared in 6 (18%) and decreased to 50% or less compared to baseline in a further 16 (48%). Maximum cystometric bladder capacity increased significantly from 108.3±62.8 ml to 179.1±92.0 ml one week after the 4th acupuncture (p<0.0001). In the 10 patients in whom incontinence was improved, the therapeutic effects could be maintained by monthly acupuncture after the initial treatment, and the average of effective maintenance treatment was 16.5 months (3-36 months). Out of the 5 patients in whom cystometric bladder capacity was not increased, brain MRI imaging demonstrated extensive brain atrophy including the frontal cerebral lobe in 4 of the 5 cases. No side effects were recognized throughout the treatment period.

Conclusions

In patients with neurological overactive bladder, acupuncture could be a therapeutic alternative for the treatment of urinary incontinence. The extent of disorder in the frontal cerebral lobe could be responsible for the degree of effectiveness of acupuncture treatment for overactive bladder.

References

1. J Urol 140:563-566 1988
2. Br J Urol 61:490-493 1988
3. Urol Int 65: 190-195 2000